

REMARKS

In response to the Office Action dated February 1, 2007, Applicant respectfully requests reconsideration based on the attached amendment and the following remarks. Applicant respectfully submits that the claims as presented herein are in condition for allowance.

Claims 1-19 are pending in the present application. Claims 1, 6, 7, 12, 15 and 17 have been amended, while claims 3, 8, 9, 16 and 18 have been canceled. No new matter has been added by the amendments. Applicant respectfully requests reconsideration of claims 1-2, 4-7, 10-15, 17 and 19 based upon the amendments and the following remarks.

Drawings

The Examiner has acknowledged receipt of papers under 35 U.S.C. § 119(a)-(d), i.e., a certified copy of Korean Patent Application No. 2002-77099 filed on December 5, 2002, but the Examiner has stated that FIGS. 1-6 in the instant application do not match FIGS. 1-6 in the Korean Patent Application.

It is respectfully noted that the drawings, and reference numerals in the drawings and specification, of the instant application are consistent with the revised drawings in the Korean application. Although the numbering of the drawings differs (e.g., FIG. 3 in the instant application corresponds to FIG. 6 in the Korean application) and various components have been relabeled and/or renamed in the instant application (e.g., “PC12” of FIG. 3 in the instant application is labeled “PC10” in corresponding FIG. 6 of the Korean application), the drawings are equivalent between the two applications and no new matter is introduced by the drawings in the instant application. If desired, an English translation of the Korean application will be provided.

Therefore, it is respectfully requested that the instant application be allowed a benefit of the date of foreign priority of Korean Patent Application No. 2002-77099, filed on December 5, 2002.

It is further respectfully noted that FIG. 5 has been amended to correct an inadvertent transposition of the label for the 1-bit digital signal ISO1 with the label for the shutter

information provision signal ISO2, as indicated in the amended drawing attached hereto. No new matter has been added by the amended drawing.

Claim Rejections Under 35 U.S.C. § 102

To anticipate a claim under 35 U.S.C. § 102, a single source must contain all of the elements of the claim. *Lewmar Marine Inc. v. Bariant, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), cert. denied, 484 U.S. 1007 (1988).

Claims 1-6 and 15-16 have been rejected under 35 U.S.C. § 102(b) as being allegedly unpatentable over Arias-Estrada (U.S. Patent No. 6,253,161 B1, hereinafter “Arias-Estrada”) as stated on pages 2-4 of the Detailed Action. Applicant respectfully traverses for at least the following reasons.

Regarding claim 1, it is respectfully noted that Arias-Estrada discloses an image sensor having a pixel (FIG. 5), a comparator (FIG. 8) and a non-retriggerable SRAM which functions as a switch (FIG. 5). The comparator in Arias-Estrada compares an analog signal of a photocell with a reference signal.

Arias-Estrada does not teach or suggest, however, a latch type comparator which compares the analog signal of the photocell and an analog signal of a photocell of an adjacent pixel and generates a digital signal having a value of the compared result, as in amended claim 1.

Similarly, regarding claim 15, it is respectfully noted that Arias-Estrada discloses an optical pointing system comprising pixels (FIG. 5), a comparator (FIG. 8), an image processor (FIG. 3) and a shutter control circuit (column 9, lines 20-34).

However, Arias-Estrada does not teach or suggest a latch type comparator which compares the analog signal of the photocell and an analog signal of a photocell of an adjacent pixel and generates a digital signal having a value of the compared result, as in amended claim 15.

Thus, it is respectfully submitted that claims 1 and 15, including claims depending therefrom, i.e., claims 2 and 4-6, define over Arias-Estrada. Note that claims 3 and 16 have been canceled.

Therefore it is respectfully requested that the rejections of claims 1-2, 4-6 and 15 under 35 U.S.C. § 102(b) be withdrawn.

Claim Rejections Under 35 U.S.C. § 103

Claims 7-13 and 17-19 have been rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Arias-Estrada in view of Goto (U.S. Patent No. 6,982,759 B2, hereinafter “Goto”) as stated on pages 5-6 of the Detailed Action. Applicant respectfully traverses for at least the following reasons.

The Examiner has stated that Arias-Estrada teaches all elements of claims 7 and 17 except for at least one second photocell which generates a second analog signal corresponding to the received quantity of light, which the Examiner has stated is taught by Goto in column 2, lines 49-56.

While Arias-Estrada teaches a first photocell and Goto teaches a second photocell, it is respectfully noted that neither Arias-Estrada nor Goto teach or suggest a latch type comparator which compares the first analog signal of the first photocell and an analog signal of a photocell of an adjacent pixel and generates a 1-bit structured digital signal having a value of the compared result, as in amended claims 7 and 17.

There is no suggestion or motivation in either Arias-Estrada or Goto to add a latch type comparator which compares the first analog signal of the first photocell and an analog signal of a photocell of an adjacent pixel and generates a 1-bit structured digital signal having a value of the compared result as claimed in the present invention. Furthermore, there is no suggestion or motivation in either Arias-Estrada or Goto that adding a latch type comparator which compares the first analog signal of the first photocell and an analog signal of a photocell of an adjacent pixel and generates a 1-bit structured digital signal having a value of the compared result would provide an advantage over the invention taught in Arias-Estrada. Thus, Applicant respectfully submits that claims 7 and 17 of the present invention are patentable over the cited references.

Therefore, it is respectfully submitted that claims 7 and 17, including claims depending therefrom, i.e., remaining claims 8-13 and 18-19, define over Arias-Estrada in view of Goto.

Thus, it is respectfully requested that the rejection of claims 7, 10-13, 17 and 19 under 35 U.S.C. 103(a) be withdrawn. Note that claims 8, 9 and 18 have been canceled.

Claim 14 has been rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Arias-Estrada in view of Goto in further view of Sohn (U.S. Patent No. 6,365,950 B1,

hereinafter “Sohn”) as stated on pages 5-6 of the Detailed Action. Applicant respectfully traverses for at least the following reasons.

The Examiner has stated that Arias-Estrada in view of Goto teaches all elements of claim 14 except wherein the second photocell is arranged outside each of the plurality of pixels, which the Examiner has stated is taught by Sohn in column 4, lines 30-42.

Independent claim 7, from which claims 14 and 19 depend, is submitted as being allowable for defining over Arias-Estrada in view of Goto as discussed above. Furthermore, it is respectfully submitted that an image sensor wherein the second photocell is arranged outside each of the plurality of pixels as allegedly taught in Sohn does not cure the deficiencies noted above with respect to Arias-Estrada in view of Goto.

More specifically, Sohn does not teach or suggest a latch type comparator which compares the analog signal of the first photocell and an analog signal of a photocell of an adjacent pixel and generates a 1-bit structured digital signal having a value of the compared result as in amended claim 7, from which claim 14 depends.

Thus, Applicant respectfully submits that claim 14 of the present invention is patentable over the cited references.

Accordingly, it is respectfully submitted that the rejection of claim 14 under 35 U.S.C. 103(a) be withdrawn.

Conclusion

In view of the foregoing remarks distinguishing the prior art of record, Applicant submits that this application is in condition for allowance. Early notification to this effect is requested. The Examiner is invited to contact Applicant's Attorneys at the below-listed telephone number regarding this Amendment or otherwise regarding the present application in order to address any questions or remaining issues concerning the same. If there are any charges due in connection with this response, please charge them to Deposit Account 06-1130.

Respectfully submitted,

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